

Work Order ID 160570

Monday, May 01, 2017 3:49:47 PM

160570

Page 1

Item ID: D2281 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: DAS 21 9-89 Stop ***NS2***
 Item Name: Jack Saddle
 Start Date: 5/9/2017 Start Qty: 60.00 ***60*** Cust Item ID:
 Required Date: 5/17/2017 Req'd Qty: 60.00 ***60*** Customer:
 Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: DAS 21 9-89 Date: **MAY 02 2017** Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2281	Rev G								

100 0.00
100 FLOW WATER JET
 Waterjet Memo 1.79
 FLOW CNC Waterjet 1-Cut as per Dwg D2281 Dwg Rev: G Prog Rev: G 2-
 Deburr if necessary

100 02/17/05/03

110 0.00
110 QC2- Inspect parts off machine FAI/FAIB
 QC Memo 0.60
 Quality Control

100 02/17/05/03

120 0.00
120 QC8- Inspect parts - second check
 QC Memo 1.20
 Quality Control

100 02/17/05/03
 DAS 38 9-89
 MAY 03 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : ☐							

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Page 2

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Revision ID: Stop ***NS2***
Item Name: Jack Saddle
Start Date: 5/9/2017 Start Qty: 60.00 ***60*** Cust Item ID:
Required Date: 5/17/2017 Req'd Qty: 60.00 ***60*** Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	Small Fab								
Small Fab	Memo	4.98							
Small Fab	Deburr								
140		0.28							
140	NC BRAKE								
Brake NC	Memo	0.67							
Brake NC	Form as per D2281 using D2281-T2								
150		0.00							
150	QC5- Inspect part completeness to step on W/O								
QC	Memo	1.20							
Quality Control									

MAY 05 2017

MAY 05 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
04 08 12				04 08 12				Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
☐ OTHER : _____									

Work Order ID 160570

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Page 3

Item ID: D2281

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Jack Saddle

Start Date: 5/9/2017 Start Qty: 60.00

60

Cust Item ID:

Required Date: 5/17/2017 Req'd Qty: 60.00

60

Customer:

Reference: (P.A.)SCHEDULED/S

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: _____

0.00

160

Packaging

Memo

LOCATION : WA001

0.60

100



MAY 08 2017

Packaging

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

6.00

17/5/19

Quality Control



MAY 08 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

Monday, May 01, 2017 3:49:47 PM

Page 1

Work Order ID: 160570

160570

Parent Item: D2281

D2281

Parent Item Name: Jack Saddle

Start Date: 5/9/2017

Required Date: 5/17/2017

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP Rev:A Removed from 9 Digit 05-12-02 JLM
IPP: rev B 06.07.17 waterjet EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S14GA		Purchased		No		100	sf	60.1950	0.125	7.894737			

M304S14GA

304SS sheet .080

05/17/03

Location

Loc Qty

Loc Code

MAT019

60.195

M136463

1.095

M136896

32

M137263

27.1

13.8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

DART AEROSPACE LTD		Work Order: 160570
Description: Jack Saddle		Part Number: D2281
Inspection Dwg: D2281 Rev: G		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**
☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.468	+/-0.010	4.475	1		Viper-02	
4.114	+/-0.010	4.115	1			
2.933	+/-0.010	2.936	1			
1.535	+/-0.010	1.539	1			
0.354	+/-0.010	.354	1			
0.354	+/-0.010	.354	1			
0.604	+/-0.010	.604	1			
2.000	+/-0.010	2.003	1			
3.396	+/-0.010	3.398	1			
3.646	+/-0.010	3.648	1			
4.000	+/-0.010	4.009	1			
1.525	+/-0.010	1.526	1			
2.475	+/-0.010	2.475	1			
Ø0.323	+0.006/-0.001	Ø.322	1			
0.080	+/-0.010	.072				

Measured by: DC	Audited by: DAS 38	Prototype Approval:	N/A
Date: 17/05/02	Date: MAY 03 2017	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.08	New Issue	KJ/JLM	[Signature]

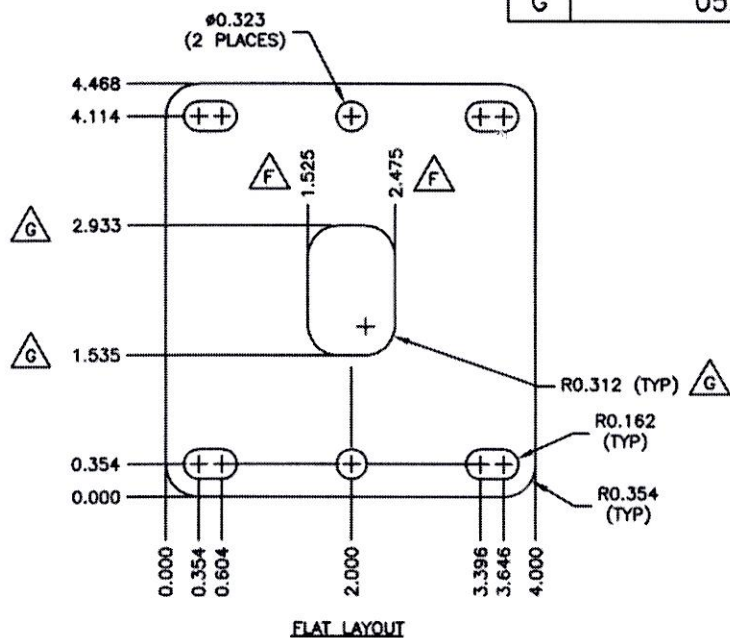
191

DART

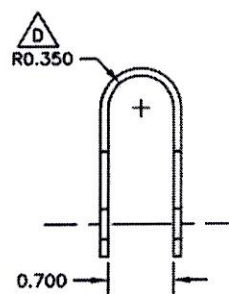
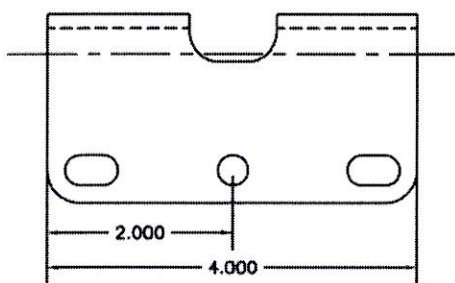
DESIGN BW	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2281	REV. G SHEET 1 OF 1
DATE 05.06.07		TITLE JACK SADDLE	SCALE 1:2
A	94.10.14	NEW ISSUE	
B	94.10.18	DIMENSION WAS 2.878	
C	94.11.04	ADD TOOLING NOTCH	
D	98.03.27	R0.350 WAS R0.280	
E	04.11.18	REMOVE TOOLING NOTCHES	
F	05.03.16	REDESIGN FLAT PATTERN	
G	05.06.07	REDESIGN FLAT PATTERN	

RELEASED

05/08/11



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 160570 M/S
170507

**D2281 JACK SADDLE**

- 1) MATERIAL: 304/316 SS, 0.080 THICK (REF DART SPEC. M304S14GA)
- 2) FINISH: NONE
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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